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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,432	02/28/2002	Mark E. Pascual	5181-87600	3194

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EXAMINER	
NGUYEN, HAU H	

ART UNIT	PAPER NUMBER
2676	9

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/085,432	PASCUAL ET AL.	
	Examiner	Art Unit	
	Hau H Nguyen	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments, filed May 11, 2004 with respect to the rejections of claims 1-28 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Hauck et al. (U.S. Patent No. 5,907,688).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 9-21, 24-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Hauck et al. (U.S. Patent No. 5,907,688).

Referring to claims 1-5, 16-20, and 28-29, as shown in Fig. 1, Hauck et al. teach a computer subsystem having a bus agent 100 which arbitrates between data streams A and B (col. 3, lines 24-25). The bus agent 100 comprises a first processing circuit FUNCTION A and a second processing circuit FUNCTION B (calculation pipelines). With reference to Fig. 1, Hauck et al. teach the bus agent 100 comprises a local arbiter 170 (an arbitration circuit), which includes a priority evaluation circuit 172, which is configured to control the channel selection. A CHANNEL SELECT signal then controls a data stream selector 165, which chooses between data stream A and data stream B according to the final determination by the priority evaluation circuit (col. 4, lines 3-11). The priority evaluation circuit 172 further includes a latency comparator 176 for comparing Tact (actual latency) to Tnom (nominal latency), which is

provided by a latency indicator 180. If the actual latency is greater than the nominal latency (a high latency operation), channel A (the higher bandwidth channel) is chosen. If the actual latency is less than or equal to the nominal latency (a low latency operation), a round-robin priority selection algorithm (a predetermined sequence) is used (col. 6, lines 21-26). Thus, in the example shown in Fig. 1, when it is determined a low latency operation, channel B (a first calculation pipeline) is selected, and when it is determined a high latency operation, channel A (a second calculation pipeline) is selected. Fig. 2 illustrated a media processor 200 (or 220), which have a video processing circuit for performing graphics operation, such as filtering, dithering, and any other function to generate video data (col. 6, lines 60-64).

In regard to claim 6 and 21, as shown in Fig. 3, Hauck et al. further teach arbitrating between three agents AGENT A, AGENT B, and AGENT C, including a priority evaluation circuit 350 utilizes round-robin scheduling until the nominal latency is exceeded, at which point the highest bandwidth channel is selected (col. 8, lines 65-67, and col. 9, lines 1-6).

Referring to claims 9-10, and 24-25, Hauck et al. also teach the calculation pipeline may include a video processing circuit performing video functions such as image capture, filtering, dithering, compression, or any function which generates video data elements for the video FIFO 208 (col. 6, lines 53-64).

In regard to claims 11-15, 26-27, although not explicitly stated, it is implied that the nominal latency, which may be stored in a register (col. 6, lines 33-35), is measured by a predetermined number of clock cycles in order to be compared to the actual latency generated by the latency timer 178 (Fig. 1) (col. 6, lines 12-26). As cited above, the low latency operation is operation performed when the actual latency is less than the nominal latency (predetermined

number of clock cycles), and the high latency operation is performed when the actual latency is greater than the nominal latency.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7-8, 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauck et al. (U.S. Patent No. 5,907,688) in view of Harrell (U.S. Patent No. 5,457,779).

Referring to claims 7-8, and 22-23, as cited above, Hauck et al. teach all the limitations of claims 7-8, 22-23, except that the calculation pipelines receiving geometric primitives containing vertex information, computing the slopes based on the vertex information.

However, Harrel teach a graphics processor as shown in Fig. 5, comprising four processors (geometry engines) 401a-401d (calculation pipelines) receives the same instruction bus 402 which is part of the overall system bus 100. There are four separate processors 401a-401d, which act to perform the slope, partial derivative, initial point calculations, and sub-pixel correction calculations a particular geometric primitive fed to each processor (col. 14, lines 48-55). Each processor receives geometric primitives and performs slope calculations based on vertex information (col. 17, lines 24-30).

Therefore, it would have been obvious to one skilled in the art to utilize the method of calculating slope for primitive as taught by Harrell in combination with the method of arbitrating

process pipeline as taught by Hauck et al. so that several graphic primitives can be simultaneously rendered in an efficient manner eliminating the conditional branching (col. 12, lines 1-3).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 703-305-4104. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

H. Nguyen

08/02/2004

Matthew C. Bella

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